



Attorney's Docket No.: 00216-645002 / 4255A

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Robert White et al.
Serial No. : 10/692,136
Filed : October 23, 2003
Title : SAFETY RAZOR

Art Unit : 3724
Examiner : Isaac N. Hamilton

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

BRIEF ON APPEAL

Applicants are appealing the final rejection of claims 17-24 and 26 in the office action dated October 19, 2005. Applicants request that the rejection be reversed. A notice of appeal was filed on November 18, 2005.

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January 11, 2006
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Darlene J. Morin
Typed or Printed Name of Person Signing Certificate

(1) Real Party in Interest

The real party in interest is The Gillette Company, Prudential Tower Building, Boston, Massachusetts. The Gillette Company recently was acquired by The Procter & Gamble Company.

(2) Related Appeals and Interferences

There are no related appeals or interferences.

(3) Status of Claims

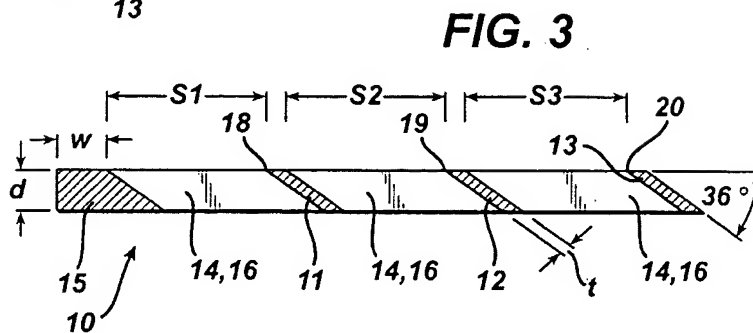
Claims 17-24 and 26 are pending. Claims 17, 18, 20-22, 24 and 26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Trotta, U.S. Patent No. 5,018,274 ("Trotta"), in view of Erdmann, DE 3526951 A1 ("Erdmann"). Claims 19 and 23 have been rejected as unpatentable over these references further combined with "applicant's admitted prior art" ("APA"). APA consists of the text found at p. 3, line 30 – p. 4, line 23 of Applicant's specification.

(4) Status of Amendments

All amendments have been entered.

(5) Summary of Claimed Subject Matter

The claims relate to making cutting elements for safety razor blade units, i.e., for razors used for wet shaving. For example, claimed processes may be used to form the cutting elements illustrated in Figs. 2-3 in the application, reproduced below:



Claim 17 is the only independent claim. Claim 17 generally relates to a method of making a cutting element for a safety razor blade unit including (a) providing a wafer of single crystal material having a surface lying in a predetermined plane of the crystallographic structure, (b) selectively removing crystal material at the surface by employing an etching process to form a planar cutting element inclined at an acute angle to the surface plane, and (c) forming a guard element from the wafer of single crystal material by the etching process, the guard element being integrally connected to the cutting element by interconnecting elements. The cutting element has a sharp cutting edge substantially at the surface plane, and the guard element is disposed substantially parallel to the cutting edge and spaced forwardly from the edge. The single crystal

material may be, for example, single crystal silicon. An etching process involves removal of material by non-mechanical methods, such as application of chemicals, plasma or reactive ions.

The claimed method allows dimensional parameters of the shaving geometry in the final razor blade to be accurately determined at the time of manufacturing. This represents a potential major breakthrough in razor blade unit manufacture. Because the method utilizes a wafer of single crystal material, integrated circuit manufacturing techniques can be used to form, *in situ* with the blade unit, electronic components such as sensors and/or actuators. (See p. 5, lines 21-28 of Applicants' specification.)

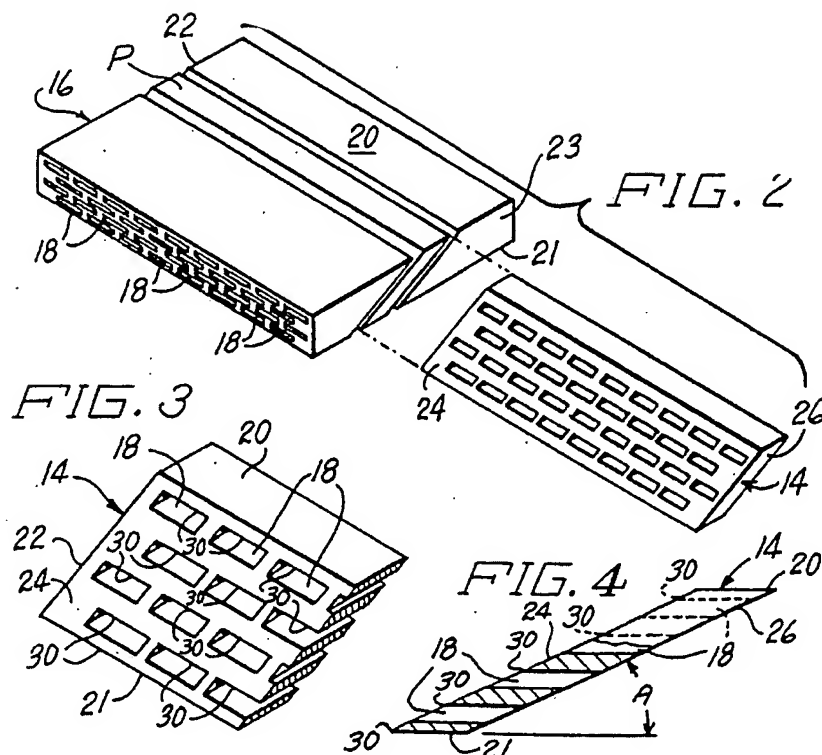
(6) Grounds of Rejection

Applicants request reversal of all 35 U.S.C. § 103(a) rejections.

(7) The 35 U.S.C. § 103(a) Rejections of the Claims Should be Reversed

Applicants first will discuss Trotta and Erdmann, and then will explain why the rejection of the claims should be reversed.

Trotta describes a method of making a blade that includes extruding a honeycomb-shaped uncured ceramic block and then slicing the block at an angle A to create the general blade shape, as shown in Figs. 2 and 4 below:



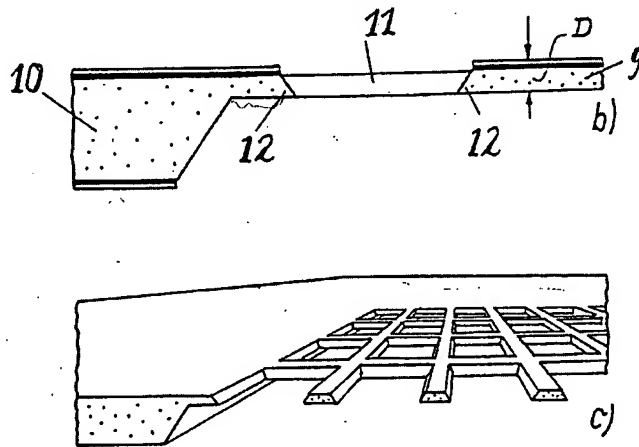
The sliced block is then cured and the surface of the cured ceramic is ground and polished to form sharpened cutting edges 30.

Trotta does not teach or suggest several features of Applicants' claim 17. As the Examiner acknowledges, Trotta does not teach or suggest selectively removing crystal material at the surface by employing an etching process. The Examiner also acknowledges that there is no suggestion in Trotta of providing a wafer of single crystal material having a surface lying in a predetermined plane of the crystallographic structure.

Trotta does not explicitly disclose a guard element. The Examiner asserts that lower surface 21 constitutes a guard element. While Applicants do not concede that this interpretation is proper, nonetheless this alleged "guard element" is not formed by an etching process, as claimed by Applicants.

Erdmann, which the Examiner relies upon to remedy these deficiencies of Trotta, discloses "shearing blades" which are intended for use in electric ("electronic") shavers. These

shearing blades are formed from a single crystal silicon wafer by an anisotropic etching process. As Erdmann explains, shearing blades (often referred to in the art as “foils”) have holes 11 through which hairs extend during shaving. The hairs are cut, not by movement of the blade itself, but by the interaction of the lower, cutting surface of the blade with electrically-driven shearing knives. This type of cutting is described, for example, in U.S. Patent No. 6,826,835, as well as many other patents describing electric shavers. As a result, referring to Figs. 1b) and 1c) of Erdmann, reproduced below, the cutting edges 12 of Erdmann's blades are not positioned at the surface plane (the top surface in figure 1b) of Erdmann's blade.



Instead, cutting edges 12 are recessed from the surface, at the bottom of each hole 11. Because Erdmann's blades function very differently from blades for wet shaving, there is no reason to include a sharp edge at the surface plane.

Claim 17 will be treated as representative of the claims on appeal. The rejection of claim 17 under 35 U.S.C. § 103(a) based on the combination of Trotta and Erdmann should be reversed. The rejection is a classic improper hindsight reconstruction of the claimed invention from the prior art.

35 U.S.C. § 103(a) provides in relevant part:

(a) A patent may not be obtained... if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole

would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

In order to find a claim obvious under 35 U.S.C. § 103(a), there must be a suggestion in the prior art to combine or modify the prior art to obtain the subject matter covered by the claim. See, for example, in In re Oetiker, 977 F.2d 1443, 1447 (Fed. Cir. 1992), in which the Court stated:

There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination.

The Federal Circuit has cautioned repeatedly that the suggestion or motivation required for obviousness cannot derive from a hindsight reconstruction of the claimed invention that uses the claim as a roadmap for establishing obviousness. For example, in In re Fritch, 972 F.2d 1260, 1266 (Fed. Cir. 1992), the Court cautioned:

[I]t is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious....

Similarly, in W.L. Gore and Associates v. Garlock, Inc., 721 F.2d 1540, 1553 (Fed. Cir. 1983) the Court explained:

To imbue one of ordinary skill in the art with knowledge of the invention when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.

Neither Trotta nor Erdmann, alone or in combination, would motivate a person of ordinary skill in the art to replace the process described by Trotta with the etching process taught by Erdmann. The Examiner asserts that the artisan would have been motivated to make this modification "to reduce the number of mechanical steps in the [Trotta] process." Applicants disagree. Trotta emphasizes repeatedly that his blade is "simple to manufacture and may be produced economically," and that his method "lends itself well to mass production techniques and is therefore inexpensive and readily adapted to the manufacture of a discardable razor." (See, e.g., Trotta, col. 1, lines 42-48 and 53-56, and col. 3, lines 56-60.) In view of this teaching, the artisan would have believed the Trotta process to be economical, and seen no reason to attempt to simplify it.

Even if the artisan had been looking to improve upon Trotta's manufacturing method, the artisan would not have looked to Erdmann. As discussed above, the "shearing blades" described by Erdmann are intended for use in electric shavers, and as a result the cutting edges 12 of Erdmann's blades are recessed from the surface, at the bottom of each aperture. The artisan would not have expected Erdmann's etching method to provide the sharp cutting edges, at the surface plane, that are required by Trotta's wet shaving application and that are obtained by his grinding/sharpening operation. In the Office Action mailed October 19, 2005, the Examiner states that "it is believed that the process in Erdmann can be used to create a surface plane with cutting edges at the surface plane in Trotta because the wafer in Trotta can uniformly be etched away in order to create a planar wafer similar to the section on the right of figure 1c) in Erdmann." Figure 1c) (reproduced above) is merely a perspective view of the shearing blade shown in figure 1b), and thus, like figure 1b), shows only cutting edges that are recessed below the surface plane. Even if the Erdmann process *could* be used to form a sharp cutting edge at the surface plane, there is simply no suggestion in either reference to do so, and thus it would appear that the Examiner is employing the improper hindsight "obvious to try" standard.

Moreover, neither Trotta nor Erdmann describes or suggests the second step in claim 17, i.e., "selectively removing crystal material at the surface by employing an etching process to form a planar cutting element inclined at an acute angle to the surface plane and having a sharp cutting edge substantially at the surface plane." It is thus not clear how the Examiner fished this step out of the references because there is simply no recognition in *either reference* that etching may be used to form a blade for wet shaving, having a sharp cutting edge at the surface plane. It was the *Applicants* themselves who made this discovery. As the Federal Circuit has repeatedly discussed, in decisions such as Fritch and W.L. Gore, an inventor's own teachings cannot be used against the inventor when conducting a 35 U.S.C. § 103(a) analysis.

It is respectfully submitted that claims 19 and 23 are patentable for at least the reasons discussed above.

Thus, for the above reasons, the 35 U.S.C. § 103(a) rejection of claim 17 based on the combination of Trotta and Erdmann should be reversed. The 35 U.S.C. § 103(a) rejections of the remaining claims should be reversed for the same reasons.

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The brief fee of \$500 is enclosed. Please apply any other charges or credits to Deposit Account No. 06-1050, referencing Attorney Docket No. 00216-645002.

Respectfully submitted,

Date: January 11, 2006



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Appendix of Claims

17. A method of making a cutting element for a safety razor blade unit comprising the steps of providing a wafer of single crystal material having a surface lying in a predetermined plane of the crystallographic structure, selectively removing crystal material at the surface by employing an etching process to form a planar cutting element inclined at an acute angle to the surface plane and having a sharp cutting edge substantially at the surface plane, and forming a guard element from the wafer of single crystal material by the etching process, said guard element being disposed substantially parallel to the cutting edge and spaced forwardly therefrom and being integrally connected to the cutting element by interconnecting elements.

18. A method according to claim 17, wherein the etching process comprises anisotropic wet chemical etching.

19. A method according to claim 17, wherein the etching process includes dry etching.

20. A method according to claim 17, wherein during the etching process a plurality of planar cutting elements inclined at an acute angle to the surface plane and having a sharp edge substantially at the surface plane are formed.

21. A method according to claim 20, wherein the plurality of planar cutting elements comprises three planar cutting elements.

22. A method according to claim 17, wherein the single crystal material is silicon.

23. A method according to claim 17, wherein the etching process comprises isotropic etching.

24. A method according to claim 17, wherein the etching process comprises wet etching.

26. A method according to claim 17, further comprising providing at least one intermediate transverse element connecting the cutting element and the guard element between the interconnecting elements during the etching process.

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Evidence Appendix

None.

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Related Proceedings Appendix

None.